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ROBERT F. SISSON

SHE TYPIFIES THE VALIANT WOMEN WHO BRAVED PLYMOUTH'S "HIDEOUS & DESOLATE WILDERNES"

In Plymouth's water-front park, framed in privet and box, stands this fountain erected by the Daughters of the American Revolution in memory of Pilgrim mothers who "brought up their families in sturdy virtue and a living faith in God without which nations perish." Rising in the background are the Doric columns that guard the Massachusetts town's honored rock (Bulletin No. 2).

Bulletin No. 1, November 24, 1952

Malaya Establishes National Citizenship

UNDER a new law which went into effect in September, residents of the young Federation of Malaya (a British protectorate) now have national citizenship for the first time.

When the nine Malay States (Johore, Kedah, Kelantan, Negri Sembilan, Pahang, Perak, Perlis, Selangor, and Trengganu), with the two British settlements of Penang and Malacca, formed the Federation of Malaya in 1948, persons who qualified by birth or residence became citizens of the states in which they lived. There was no national citizenship.

Majority of Malaya's Citizens Are Non-Malays

The new law gives national citizenship to everyone born in Malacca or Penang, and to anyone born in the Malay States one of whose parents had been born in the Federation. Other residents with reasonable qualifications may become citizens of the Federation upon application.

More than 4,000,000 of Malaya's estimated (December, 1951) population of 5,420,000 now have national citizenship. During the past three-quarters of a century, a vaste horde of Chinese has poured into Malaya. Thousands have migrated from India. Descendants of these races now outnumber the 2,000,000 Malays.

Nearly 200,000 Indians who had British citizenship are now citizens of the Federation of Malaya, as are more than a million Chinese—over half the Chinese population of the Federation.

Situated at the end of the long southeast Asia peninsula of Malaya, the Federation is shaped somewhat like a small edition of the continent of South America. Malaya's eastern shores are washed by the South China Sea; on the west the Strait of Malacca separates it from Sumatra.

Beyond Malaya's northern frontier the peninsula narrows to a long, slim neck of land into which southern extensions of Burma and Thailand are meshed together.

Citizenship Has Become Important to Immigrants

The Chinese of the Federation are mostly merchants and transient laborers who for generations held allegiance to their homeland rather than to their adopted country. They still considered themselves citizens of China; and this was also very much the attitude of the immigrants from India and their descendants.

In recent years, however, the business of the country has been left so largely in the hands of non-Malays that they have come to accept Malaya as their permanent home and the question of citizenship has become important.

Although its area of 50,690 square miles places Malaya below the State of Alabama in size, this Far East land has rich natural resources, particularly in tin and rubber. Because it produces nearly half the world's supply of natural rubber and more than a fourth of its tin, Malaya is one of the British Commonwealth's leading dollar earners.

ENTERED AS SECOND CLASS MATTER APRIL 27, 1943. POST OFFICE, WASHINGTON, D. C., UNDER ACT OF MARCH 3, 1879.
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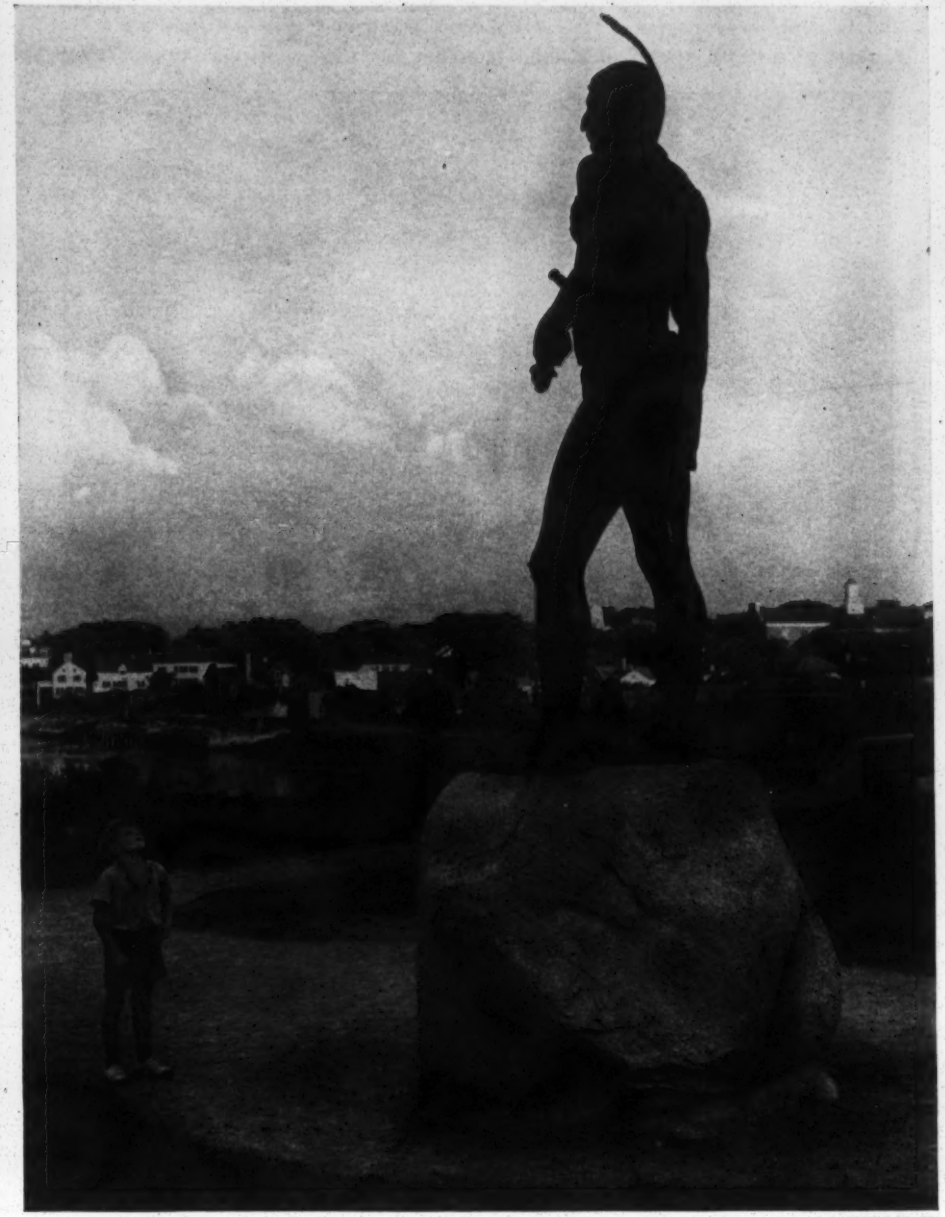

HOWELL WALKER

FROM A BOULDER ON COLE'S HILL, MASSASOIT, FRIEND OF THE PILGRIMS, SURVEYS PLYMOUTH

The Indian chief who helped the Pilgrims through the first grim winter at Plymouth signed a treaty of amity with Governor Bradford in 1621. He maintained his friendship with the white men until he died, 40 years later. Massasoit was guest of honor at the feast which marked the first Thanksgiving (Bulletin No. 2) when the Pilgrims celebrated a year of survival in the Massachusetts wilderness. A bronze tablet on the front of the rock bears the inscription "Massasoit, Great Sachem of the Wampanoags, Protector and Preserver of the Pilgrims, 1621."

Bulletin No. 2, November 24, 1952

Plymouth Leads Nation in Thanksgiving

ON November 27, residents of Plymouth—along with millions of other Americans—will celebrate the holiday their ancestors inaugurated 331 years ago on the "stern and rockbound coast" of Massachusetts Bay.

The coast about Plymouth actually is somewhat less than "rockbound." Most prominent rock in the vicinity is the six-by-eight glacial boulder, the famous "Plymouth Rock," on which the Pilgrims from Plymouth, England, stepped ashore in 1620. Around the bay curve rippling sand dunes, marshy meadows, and miles of beaches backed by pine woods. Fresh-water ponds reflect the sky and streams trickle down to the bay.

Lived on *Mayflower* First Winter

The fierce storms and head winds which drove the little ship *Mayflower* far north of her intended destination would have made any coast seem bleak and "stern." The vessel anchored off the tip of Cape Cod and a group of men went ashore to find a suitable location for the settlement. They selected the site across the bay on the "mainland" because a stream of fresh water offered a good water supply, the pine woods provided timber for their homes, and the bay made safe anchorage.

The Pilgrims lived on the *Mayflower* during the first winter and went ashore daily to cut timber, build their houses, and clear land for planting. The damp cold, insufficient food, and hard labor caused a great deal of sickness. An epidemic of what may have been a deadly form of flu killed many of them. At one time only seven of the colonists were well enough to care for the rest. Half of the original 102 died.

To keep the Indians from knowing how rapidly they were dying, the colonists buried the dead secretly and planted corn over the graves.

Seed which they had brought from England did not germinate and if it had not been for the corn they raised from seed the Indians gave them, they probably would have starved.

In April, 1621, the *Mayflower* returned to England with the half of her crew that had survived, but not a single colonist went back.

More Colonists but No Supplies

The settlers planted seed and began to trade with the Indians, who were then friendly. They cut and dressed lumber to export to England, along with skins, as payment to The Adventurers, the company which had furnished the money for their voyage.

In November, 1621, a ship arrived with 35 more colonists, but no stores. It was a severe hardship for the Pilgrims to stock the ship for its return voyage as well as to feed the new colonists—but it was a great triumph that they could send back by the ship their payment of 500 pounds worth of clapboards, sassafras, and furs.

That was the year that saw the first Thanksgiving. Thankful to have survived the perils of that first year in the wilderness, the Pilgrims celebrated their first harvest with a ceremony of thanksgiving and a feast to which they invited Massasoit, the Indian chief (illustration, inside cover) who had befriended them, and 90 of his braves.

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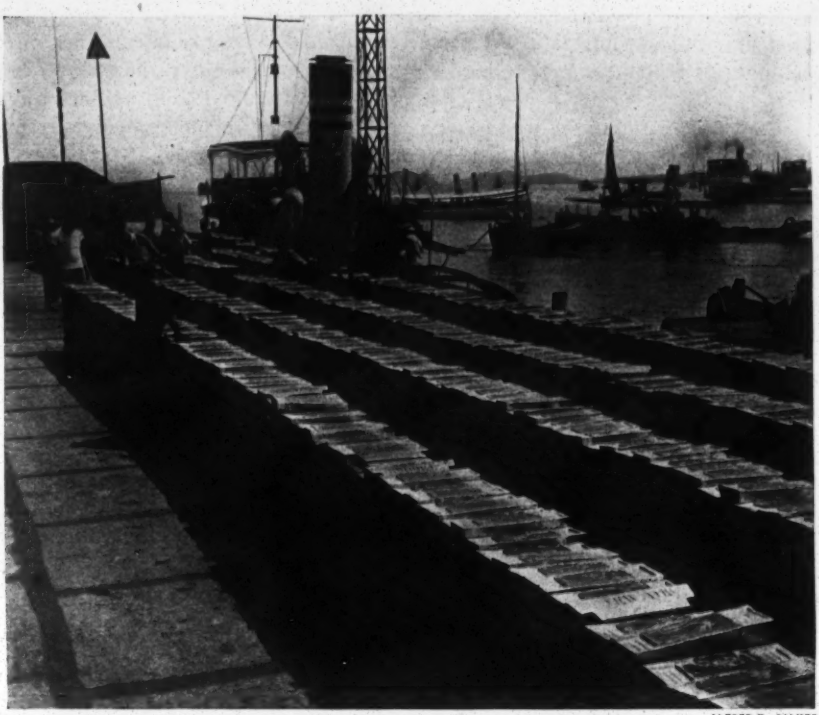
Politically the people of Malaya have made some progress toward self rule since the end of World War II. During the course of the war in the Pacific, when the country was occupied by the Japanese, much of its northern area was transferred to Thailand. Japan's defeat and the return of the British brought back the lost states and resulted in the formation of a Malayan Union.

In 1948 the union gave way to the Federation of Malaya, with a more popular constitution providing for eventual self government and membership in the British Commonwealth.

Malaya is reported to have great need for doctors, teachers, engineers, and other trained persons. The British Red Cross has been doing fine work in the country, and a school has been established near London to train Malays as teachers for their own people. A number of Malay students have been trained in schools in the United States, supported by money from their home.

NOTE: The Federation of Malaya is shown on the National Geographic Society's map of The Far East. Write the Society's headquarters, Washington 6, D. C., for a price list of maps.

For further information, see "The British Commonwealth of Nations," in *The National Geographic Magazine* for April, 1943; and, in the GEOGRAPHIC SCHOOL BULLETINS, October 29, 1951, "Change and Struggle Visit Malaya's Capital." *(Back issues may be obtained from the Society's headquarters at 60¢ a copy, 1946 to date; $1.00, 1930–1945; $2.00, 1913–1929. Earlier issues at varied prices.)*



ALFRED T. PALMER

AT GEORGE TOWN, PENANG, MALAYA'S SCORCHING SUN BEATS DOWN ON LONG WALLS OF TIN INGOTS AWAITING SHIPMENT TO THE UNITED STATES

Bulletin No. 3, November 24, 1952

Men Out-Soar Birds on Strange Sierra Wave

IN the ocean of air that flows over the uneven earth, there are a few places where, now and then, huge waves of wind form. Mysterious swells break over mountaintops and boil up from valleys high into the stratosphere.

One such surf line in the sky is lifting men in motorless sailplanes eight miles above sea level over southern California's Sierra Nevada peaks (illustration, next page) and opening a new flight frontier.

Weather Conditions Not Often Right for "Standing Wave"

It is called the Sierra Wave. Discovered only a few years ago, the cloud-capped comber already is responsible for a new world's altitude record for gliders. On December 30, 1950, William S. Ivans, Jr., an electrical engineer, soared to 42,100 feet on the towering updrafts near Bishop, California, in a tiny metal plane without an engine.

Only occasionally are weather conditions such that the strange so-called "standing wave" occurs. When winds blow in from the Pacific, they are deflected upward by the wall of the Sierras. Northwest of Death Valley they sometimes dive sharply again into the valley of the Owens River, and are then forced vertically to great heights by the opposite wall of the White Mountains on the California-Nevada border.

A line of lens-shaped clouds high over Owens Valley reveals when the wave has formed. To ride it, pilots must use oxygen and have sailplanes and instruments that can stand temperatures of 50 degrees or more below zero. To reach it, they must be expert in soaring on mountain-slope currents and the boiling chimneys of heated air called "thermals."

Not only in altitude are United States soaring enthusiasts breaking international records. Last August a Mississippi State College student, Richard H. Johnson, flew 535 miles from Odessa, Texas, to Salina, Kansas, in an American-designed sailplane. He smashed a 12-year mark set by a Russian woman pilot, Olga Klepikova—465 miles from Moscow to a point near Stalingrad in 1939.

A German Pioneer Inspired the Wright Brothers

Ever since the Roman storyteller Ovid wrote of Icarus and Daedalus flying along the shores of the Aegean Sea on feathered wings, man has been intrigued by the thought of matching the great soarers among the birds—albatross, sea gull, eagle, vulture, hawk, and condor.

Leonardo da Vinci, the Italian artist of the 15th and 16th centuries, drew plans for gliders, but never tried them out. Four centuries after Leonardo dreamed up these forerunners of the modern glider, the exploits of the German pioneer, Otto Lilienthal, inspired Wilbur and Orville Wright to begin their historic experiments with gliders at Kitty Hawk, North Carolina.

Soaring, as a sport as well as a science, was largely neglected in the first two decades of the aviation age. Men preferred motor-powered

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Ever since those early colonial days, Americans have set aside a day to thank God for their harvest and the blessings of the year. In 1863 President Lincoln made Thanksgiving a national holiday. And today the church services, the traditional decorations of pumpkins, corn, and blazing autumn foliage and flowers, the turkey and cranberry, are reminders of the Pilgrims and their first Thanksgiving.

Plymouth, today, is a prosperous town of some 14,000. In summer the population is easily doubled when visitors flock to see its historic landmarks, swim from its beaches, and sail the waters of its bay.

Industries include a cordage company which has turned out rope and binder twine since 1824 and which supports about a quarter of the town's people. Factories produce tacks, insulated wire, and curtains. Cranberry bogs are the basis for a $10,000,000 business which supplies two-thirds of the nation's crop—jammed, jellied, frozen, or "as is."

After several journeys to other sites, Plymouth Rock is now enshrined in its original location at the water's edge. A granite canopy protects it (illustration, cover). The three pieces into which it broke during various moves have been cemented together. Over an iron railing on its landward side, visitors look down on the Pilgrims' treasured "stepping-stone to freedom."

NOTE: Plymouth is shown on the Society's map of the Northeastern United States. See also, in *The National Geographic Magazine* for August, 1947, "Land of the Pilgrims' Pride"; "Cape Cod People and Places," June, 1946; and "Nantucket—Little Gray Lady," April, 1944.

ROBERT F. SISSON

PLYMOUTH PILGIMS MARCH AGAIN TO WORSHIP ON A HILLTOP

On Fridays in August, Plymouth residents re-enact the march to church of the original settlers. In colonial costumes, they march up Burial Hill—called Fort Hill by the Pilgrims because it was crowned with a blockhouse serving also as a church. On the summit, they hold commemorative services. A number of the participants are direct descendants of colonists and bear their names.

Bulletin No. 4, November 24, 1952

Weapons of Science Fight Forest Fires

FOREST Fires brought flaming death to ten million acres of American timberland last year. The damage would have been even worse had it not been for helicopters and parachute jumpers (illustration, next page), radio, water bombs, and bulldozers.

Such scientific tools as these are weapons in the arsenal of the modern forest ranger. They were often thrown into the fight again this year as tinder-dry conditions from Virginia to California, and from Canada to the Gulf of Mexico brought terror of fire into the flaming autumn glory of the woods.

Fire Can Travel with Speed of the Wind

A dry forest needs only a carelessly tossed cigarette, a smoldering campfire, or a flick of lightning to become a raging inferno.

Glowing pine needles, like a slow-burning fuse, can easily carry a fire hundreds of feet before it breaks out. The floor of the forest itself can burn. A puff of air stirring dry leaves touches off a burst of flame and, almost instantaneously, the blaze has become a seething furnace, beyond control.

Sometimes the fire travels slowly, eating its way along at low levels. But it is possible for it to "explode" without warning. It can flare up fiercely amid snags and wind-felled timber and race through the crowns of trees as fast as the wind that pushes it.

In forests which are protected against fire, such as national parks and national forests, the first wisp of smoke that is spotted brings fast action, for man's best weapon is time.

Fire watchers, communicating with each other by telephone and radio, triangulate the exact site of the fire. Within minutes, a team of smoke jumpers can be at the scene, jumping from low-flying planes or landing by helicopter. Four men can control an incipient blaze which a few hours later might require 300 or 400 men to control.

Annual Loss Is Nearly a Billion Dollars

In an even newer technique, foresters have experimented with bombing a fire with thin-walled tanks of water or fire-dampening chemicals, holding it in check until ground crews arrive. For cutting fire lines, bulldozers and tractor-drawn plows rip through acres of woods.

In spite of these advances, the cost of forest conflagrations approaches an estimated billion dollars a year in the United States. It is counted in charred timber, ruined rangeland, wildlife and recreational loss, and subsequent erosion of burned-over watersheds.

The United States Forest Service ranks the Peshtigo fire of 1871 in northern Wisconsin as the most disastrous in the nation's history. Some 1,500 people were killed, towns were destroyed, and 1,280,000 acres of forest burned before it was brought under control. Yet this fire received scant attention nationally. By one of nature's strange coincidences, it began on the same day as the great Chicago fire.

aircraft. By the middle 1920's, however, soaring was being revived in Germany. Soaring clubs sprang up all over Europe. Slowly records rose—in endurance, from minutes to hours; in distance, from tens of miles to hundreds; in height, from hundreds of feet to thousands.

Headquarters of United States soaring has long been Harris Hill near Elmira, New York. Until 1940 only a few Americans owned sailplanes, but World War II taught thousands of pilots to handle gliders. Today, the United States has dozens of soaring clubs.

High altitude eddies such as the Sierra Wave are known to occur in other parts of the world, as when gales from the Mediterranean sweep across the Alps. Americans, however, have been the first to ride them. On the wings of the wind alone, daring pilots are soaring half again as high as the top of Mount Everest, the highest mountain in the world.

NOTE: The Sierra Nevada where the wind wave occurs may be located on the Society's map of the Southwestern United States.

See also, "Flying in the 'Blowtorch Era'," in *The National Geographic Magazine* for September, 1950; and "Our Air Age Speeds Ahead," February, 1948.

CLIFTON ADAMS

A PARK RANGER POINTS OUT TO VISITORS A SNOW-CAPPED PEAK IN THE SIERRA NEVADA

Over the wall of this California range the tremendous air current known as the Sierra Wave lifts men in motorless aircraft to world-record heights. Sequoia National Park also boasts the Giant Forest, a grove of *Sequoia gigantea* known as "the world's oldest living trees."

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Bulletin No. 5, November 24, 1952

Turkey Works to Solve Its Traffic Problems

FIVE centuries after Greeks and Turks engaged in a bitter conflict around its ancient walls, the city of Istanbul faces the modern conflict of trucks and automobiles, streetcars and pedestrians, all seeking for room to move.

Beside the Golden Horn, automatic traffic signals of American design, parking meters, garages, and parking lots are proposed to solve problems of a city founded when men rode horses or walked.

Once More Oriental than European

Istanbul, Turkey's greatest seaport, is menaced on its land side by bottlenecks. The Galata Bridge over the world-famous Golden Horn is one of these. At rush hours, traffic slows to a crawl. Commuters jam into the area where there is not only a bridge, but the ferry to the Bosporus, the streetcar to Bebek, and the tunnel to the heights of Peyoglu.

The Golden Horn is an inlet curving into the shore line of Europe. Even in the days when the great city that straddles this inlet was called by its Greek name, Constantinople, the section to the south was known as Stamboul. Life in Stamboul once was more Asiatic than that of the northern portions, but today it is taking on European dress.

South from the Galata Bridge, the view now includes not only an unparalleled panorama of minarets and mosque domes, but a steel-and-concrete picture composed of the city's leading department stores, its central post office, the railway station for the Orient Express, and fine schools, all in Stamboul.

On the north bank rises Istanbul's most noticeable sky-scraper, the Galata Tower, center of the Genoese colony and the offices of foreign ambassadors.

Normal business traffic in the Galata bottleneck is swelled by the movement of pleasure seekers from the coffee shops and the mosque courts of Stamboul to the movie theaters, night clubs, casino, and open-air opera of Peyoglu. Fortunately, airport busses do not use the Galata Bridge, but roll in over a new span farther up the Golden Horn.

Traffic Lights May Be Unpopular

Western visitors are intrigued by the city's two-car trams, now facing stern competition from taxis, busses, and private automobiles. So crowded are these Turkish counterparts of the American streetcars that honest passengers pass their fares along to the conductor through several hands, and less honest ones ride free.

It is not yet known whether automobile drivers in the city of Constantine, Theodora, and Mohammed the Conquerer will take kindly to amber, red, and green lights, and the cold rule of the parking meter. City fathers can only try the innovations and hope for the best.

Turkey's traffic problems are not confined to Istanbul. Across the Bosporus in Asia Minor lie suburbs of that European metropolis. Car ferries connect the two continents, their western terminus adding to the traffic complications of Istanbul.

UMI

The United States has 152 national forests which cover approximately 178 million acres—an area greater than the State of Texas. Each forest is administered by a supervisor with numerous assistants. The districts into which a forest is divided are under forest rangers who have charge of maintaining the roads and trails, bridges, camps, and telephone lines. Most important of all, the ranger is responsible for protecting his section of the forest from fire.

In the Umatilla National Forest in Oregon, a special school teaches the fire fighters their job of protecting the forests from their fiercest and most disastrous enemy.

NOTE: For additional information, see "Forest Lookout," in *The National Geographic Magazine* for July, 1946.

U. S. FOREST SERVICE

FULLY EQUIPPED, A "SMOKE JUMPER" PARACHUTES DOWN TO FIGHT A MONTANA FOREST FIRE

But the problems of Turkey-in-Asia are not so much the snarls of crowded thoroughfares and a conglomeration of motor vehicles as a simple lack of roads, improved and otherwise.

From Ankara, the republic's capital, 220 miles southeast of Istanbul, a number of roads radiate. Others form a network over Anatolia from the Aegean to the borders of the Soviet Union and Iran, but of the 13,500 miles of national highways, only 350 are asphalt, and fewer than 5,000 are surfaced with all-weather macadam. Transport of farm products from agricultural regions (illustration, below) to cities is slow and expensive. A recent improvement is the 160-mile highway which has been macadamized from Ankara across the high plateau of west-central Anatolia to Konya.

This city of 60,000 is a market center to which herders from the surrounding countryside bring quantities of mohair and wool. For many years its artisans have woven carpets, silk, and cotton, and made leather goods. The modern highway to the capital should boom trade in inland Konya.

NOTE: Turkey is shown on the Society's Map of Europe and the Near East.

See also, "Where Turk and Russian Meet," in *The National Geographic Magazine* for June, 1952; "Turkey Paves the Path of Progress," August, 1951; "Alert Anatolia," April, 1944; "The Transformation of Turkey," January, 1939; and in the GEOGRAPHIC SCHOOL BULLETINS, January 15, 1951, "Reopened Lead Mines Add to Turkey's Wealth."

TURKISH PRESS BUREAU

PAST STONE-ANCHORED ROOF TOPS, A TURKISH FARMER JOGS OVER A ROCKY COUNTRY LANE

Farmers in the rugged uplands of northeastern Turkey raise wheat and livestock. Improved roads and motor vehicles will facilitate transport to distant cities and ports on the Mediterranean and Black Sea from this inland region. Stones are needed to hold down roofs of farmhouses when wintry blasts sweep down from the Caucasus, which tower to the northeast, across the Soviet border.